

# Nomenclatural Notes on the Myrsinaceae of China

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**ABSTRACT.** The following nomenclatural changes are proposed: *Maesa brevipaniculata* (C. Y. Wu & C. Chen) Pipoly & C. Chen, *M. confusa* (C. M. Hu) Pipoly & C. Chen, *Embelia laeta* (L.) Mez subsp. *papilligera* (Nakai) Pipoly & C. Chen, *E. ribes* Burman f. subsp. *pachyphylla* (C. Y. Wu & C. Chen) Pipoly & C. Chen, *Ardisia obtusa* Mez subsp. *pachyphylla* (Dunn) Pipoly & C. Chen, *Myrsine cicatricosa* (C. Chen) Pipoly & C. Chen, *M. verruculosa* (C. Chen) Pipoly & C. Chen, *M. faberi* (Mez) Pipoly & C. Chen, and *M. kwangsiensis* (E. H. Walker) Pipoly & C. Chen. Twenty-three taxa in *Embelia* and *Ardisia* are reduced to synonymy for the first time. Twelve names in *Embelia*, *Ardisia*, and *Myrsine* are lectotypified.

In order to make the names available for the forthcoming treatment of Myrsinaceae for the *Flora of China*, the following nomenclatural changes in the genera *Maesa*, *Embelia*, *Ardisia*, and *Myrsine* (including *Rapanea*) are herein proposed. The authors have studied type or authentic material from China, the Pacific, and eastern Malesia and are broadening species concepts based on those studies. Type specimens seen from KUN have the acronym HY marked on them.

## MAESA FORSSKÅL

*Maesa* is the only genus in the Myrsinaceae with a semi-inferior to inferior ovary and a berrylike fruit. This paleotropical genus contains nearly 200 species, of which 28 are known from China.

***Maesa brevipaniculata*** (C. Y. Wu & C. Chen) Pipoly & C. Chen, comb. nov. Basionym: *Maesa parvifolia* A. DC. var. *brevipaniculata* C. Y. Wu & C. Chen, Fl. Yunnan. 1: 324. 1977. TYPE: China. Yunnan: Malipo, 26 Aug. 1962, K. M. Feng 22805 (holotype, KUN).

*Maesa brevipaniculata* is distinguished from *M. parvifolia* by having a velutinous brown tomentum,

instead of a brown hirtellous-tomentose and rufous glandular-granulose tomentum on the branchlets, petioles, and inflorescence rachises. Therefore, it is more consistent to recognize *M. brevipaniculata* as a distinct species.

***Maesa confusa*** (C. M. Hu) Pipoly & C. Chen, comb. nov. Basionym: *Maesa consanguinea* Merrill var. *confusa* C. M. Hu, Bot. J. South China 1: 12. 1992. TYPE: China. Hainan: Bao-ting Xian, Tong-za Mao-an, 23 Feb. 1957, L. Tang 3789 (holotype, IBSC).

*Maesa confusa* is a poorly known taxon, but its densely and minutely glandular-granulose inflorescence rachises, long pedicels, highly angulate branchlets, and densely black punctate-lineate fruits readily separate it from *M. consanguinea*.

## EMBELIA BURMAN F.

*Embelia* contains approximately 150 species of lianas (at maturity) that are distributed in the Palearctic from southern China to Malesia, west through Indochina to India, and on to Madagascar and continental tropical Africa. *Embelia* is a member of the tribe Myrsineae and is the sister genus of *Cybianthus* Martius (Pipoly, 1987). It is the only lianous member of the family and is distinguished by its plagiotropic branches and free petals and stamens. Walker (1940) recognized 18 species in China, of which 12, as well as 2 additional species hitherto unknown in China, are recognized by the authors.

***Embelia pauciflora*** Diels, Bot. Jahrb. 29: 517. 1900. TYPE: China. Sichuan: Nanchuan, Bock & von Rosthorn 25 (holotype, B presumed destroyed; fragment, US).

*Embelia blinii* H. Léveillé, Repert. Spec. Nov. Regni Veg. 10: 375. 1912. Syn. nov. TYPE: China. Guizhou: near Mt. College, to Kematong, Feb. 1898 (pistillate fl), J. Chattanjon & E. Bodinier 2081 (holotype, E; isotypes, A, P).

*Embelia dielsii* H. Léveillé, Repert. Spec. Nov. Regni Veg. 10: 374. 1912. Syn. nov. TYPE: China. Guizhou: Pin-Fa, 17 Feb. 1903 (staminate fl), *J. Cavalerie* (holotype, E; isotypes, A, P).

*Embelia kaopoensis* H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 186. 1913. Syn. nov. TYPE: China. Guizhou: Kao-Po, 15 Dec. 1911 (pistillate fl, fr), *E. Bodinier s.n.* (holotype, E).

*Embelia pauciflora* apparently exhibits extreme local variation in its precocious staminate flowering, which causes abrupt quantitative variation for those plants bearing essentially "juvenile" leaves. Differences among the populations represented by the type specimens of *Embelia blinii*, *E. dielsii*, *E. kaopoensis*, and *E. schlechteri* are entirely quantitative and represent at best localized variation.

***Embelia laeta* (L.) Mez in Engler, Pflanzenr. 9(IV. 236): 326. 1902.**

*Embelia laeta* is readily recognized from the other members of *Embelia* by the minute emargination at the leaf apex and gray to reddish bark. It consists of two subspecies, of which subspecies *papilligera* is distributed in China (Guangdong, Jiangxi, Taiwan) and Japan, whereas subspecies *laeta* is distributed in China (Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan), Cambodia, Laos, Thailand, and Vietnam. It appears that subspecies *papilligera* grows in somewhat more humid habitats than subspecies *laeta*. The two subspecies may be easily distinguished by the following key.

- 1a. Branchlets straight to somewhat flexuous, glabrous; leaves chartaceous, margins flat; pedicels and calyx glabrous; petals glandular-ciliate along the margin . . . . . subsp. *laeta*
- 1b. Branchlets geniculate, minutely and densely rufous glandular papillose-tomentose; leaves coriaceous, margins revolute; pedicels and calyx glandular-puberulent; petals glabrous along the margin . . . . . subsp. *papilligera*

***Embelia laeta* (L.) Mez subsp. *papilligera* (Nakai) Pipoly & C. Chen, stat. nov.** Basionym: *Samarra laeta* var. *papilligera* Nakai in Nakai & Honda, Nov. Fl. Japan 9: 24. 1943. TYPE: Japan. Mt. Arisan, between Heishana & Niman-daira, to 7000 ft. alt., Apr. 1914 (fl, fr), *Hayata s.n.* (holotype, TI).

***Embelia parviflora* Wallich ex A. de Candolle, Trans. Linn. Soc. 17: 130. 1834.** TYPE: India. Assam: *Wallich 2307* (holotype, K-W).

*Embelia pulchella* Mez in Engler, Pflanzenr. 9(IV. 236): 324. 1902. Syn. nov. SYNTYPES: India. Assam: *Griffith s.n.* (B destroyed, K); Manipur: *Watt 7277* (lectotype, here designated, K).

*Embelia myrtifolia* Hemsley & Mez, Notizbl. Bot. Gart. Berlin 3: 107. 1901. SYNTYPES: China. Yunnan: Mentze, S mountains, (pist. fl), *A. Henry 12826*; China. Yunnan: Mentze, S mountains, (stam. and pist. fls), *A. Henry 9384* (lectotype, here designated, A; isoelectotypes, MO, US (pist. fl)).

***Embelia ribes* Burman f., Fl. Ind. 62. pl. 23. 1768.**

As a result of a detailed study of *Embelia ribes* throughout its geographic range, it became apparent that two distinct entities exist. One grows in forests on well-drained soils, while the other is restricted to water-logged habitats. These are recognized as subspecies that can be distinguished as follows:

- 1a. Branchlets lenticellate; leaf blade chartaceous, sordid adaxially; floral bracts subulate; petals erect in anthesis; stamens and staminodes equal in size, subequaling petals; anthers longer than wide; fruit 3–4(–5) mm diam. when dried; plants of forests, on well-drained sands or sandy loams . . . . . subsp. *ribes*
- 1b. Branchlets without lenticels; leaf blade coriaceous to cartilaginous, nitid adaxially; floral bracts lanceolate; petals highly reflexed in anthesis; stamens slightly exerted ca. 1 mm in anthesis, staminodes ca. 2/3 petal length; anthers wider than long; fruit 2–3 mm diam. when dried; plants of poorly drained clay areas, swamps, and forests . . . . . subsp. *pachyphylla*

*Embelia ribes* subsp. *ribes* is distributed in China (Fujian, Guangdong, Guangxi, Guizhou, Hainan, Xizang, and Yunnan), Sri Lanka, India, Myanmar, Laos, Thailand, Cambodia, Vietnam, Malaysia, Sumatra, Java, and Kalimantan.

***Embelia ribes* Burman f. subsp. *pachyphylla* (C. Y. Wu & C. Chen) Pipoly & C. Chen, stat. nov.** Basionym: *Embelia ribes* var. *pachyphylla* Chun ex C. Y. Wu & C. Chen, Fl. Yunnan. 1: 364. 1977. TYPE: China. Guangdong: Lechang Xian, *Zuo Jing-lie 20451* (holotype, KUN).

*Embelia tenuis* Mez in Engler, Pflanzenr. 9(IV. 236): 314. 1902. Syn. nov. TYPE: Malaysia. Sarawak: *Hullet 271* (holotype, K).

Subspecies *pachyphylla* is distributed in China (Guangdong, Guangxi, Hainan, Yunnan), Sarawak, Sumatra, and Vietnam.

***Embelia vestita* Roxburgh, Fl. Ind. ed. Carey 2: 288. 1824.**

*Embelia prunifolia* Mez in Engler, Pflanzenr. IV (236): 316. 1902. SYNTYPES: China. Yunnan: Mentze, 1700–2000 m, (stam. fl), A. Henry 9380C (B destroyed, A); 10260 (B destroyed, A), 11327A, 11327B (B destroyed, A); China. Yunnan: 5500', A. Henry 9380 (lectotype, here designated, A; isolecotype, B destroyed).

*Embelia oblongifolia* Hemsley, J. Linn. Soc., Bot. 26: 62. 1882. Syn. nov. TYPE: China. Guangdong: Lofanshan, Ford 90 (holotype, K).

*Embelia bodinieri* H. Léveillé, Repert. Spec. Nov. Regni Veg. 9: 327. 1911. Syn. nov. TYPE: China. Guizhou: J. Esquirol 743 (holotype, E; isotype, P).

*Embelia rudis* Handel-Mazzetti, Anz. Akad. Wiss. Wien. Math.-Nat. 59: 108. 1922. Syn. nov. TYPE: China. Jiangxi: Handel-Mazzetti 157 (holotype, W).

*Embelia nigroviridis* C. Chen, Acta Phytotax. Sin. 16(3): 81. 1978. Syn. nov. TYPE: China. Xizang: Cha-yu, Tsinghai-Tibet Expedition 73–678 (holotype, HP).

*Embelia vestita* is here treated as a polymorphic, broad-ranging species with numerous locally variable populations. It grows in mixed forests, evergreen, broad-leaved forests, shrubby areas, and limestone hillsides in China (Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang), India, Myanmar, Nepal, and Vietnam.

The type of *Embelia rudis* represents populations whose tertiary veins are extremely thick and whose adaxial leaf surface is more nitid than the type of *E. vestita*. The type of *Embelia oblongifolia* represents populations with remotely serrate leaves and fewer, coarse secondary veins than those of the type of *E. rudis*. The variation noted above precluded segregation of even infraspecific groupings. Therefore, the species is treated as a polymorphic ochlospecies (sensu White, 1962; Prance, 1972, 1982; Pipoly, 1983). The highly nitid leaf blades and inconspicuously pellucid or brown punctate sepals easily separate *E. vestita* from *E. undulata* and *E. scandens*, the most closely related congeners.

ARDISIA SWARTZ

*Ardisia* is a pantropical genus of about 500 species, including many as yet undescribed from Vietnam, Sabah, Sarawak, Sulawesi, New Caledonia, Madagascar, Colombia, Ecuador, and Peru. It is represented in China by 64 species, most of which are members of subgenus *Crispardisia*.

*Ardisia obtusa* Mez in Engler, Pflanzenr. 9(IV. 236): 104. 1907. TYPE: China. Hainan: Henry 7990 (holotype, B destroyed; photo and fragment, US).

*Ardisia obtusa* is a member of subgenus *Akosmos* Mez, which includes about 50 species and has its centers of diversity in Borneo, Celebes, and Mo-

lucas. It is represented in China by two subspecies: subspecies *obtusa* is endemic to China (Guangdong and Hainan) and grows in thickets, broad-leaf forests, hilly areas, and along creek margins; subspecies *pachyphylla* grows in dense evergreen broad-leaf forests, steep valley slopes, and in places with poor drainage in China (Guangxi, Hainan) and Vietnam. The two subspecies can be separated as follows:

- 1a. Leaves oblanceolate to obovate; petioles broadly marginate, 1.2–1.5 cm long; sepals 1.2–1.5 mm long; petals 3–6 mm long, inconspicuously pellucid punctate; 0–100 m, lowland forests . . . subsp. *obtusa*
- 1b. Leaves narrowly oblanceolate or linear-lanceolate; petioles marginate and canaliculate, 0.6–1 cm long; sepals 0.8–1 mm long; petals 2–2.5 mm long, densely and minutely orange punctate, 400–700 m, montane forests . . . . . subsp. *pachyphylla*

*Ardisia obtusa* Mez subsp. *pachyphylla* (Dunn) Pipoly & C. Chen, comb. et stat. nov. Basionym: *Ardisia pachyphylla* Dunn, Bull. Misc. Inform. 1912: 368. 1912. TYPE: China. Hainan: Five Finger Mountains, *Katsumata s.n.* (HK No. 6680) (holotype, HK; photo and fragment, A, K).

*Ardisia graciliflora* Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 832. 1930. Syn. nov. TYPE: [Vietnam]. Annam: Phu-Hu, prov. Nhatrang, 19 Jan. 1923 (fl), E. Poilane 1362 (holotype, P; isotypes, A 2 sheets).

*Ardisia graciliflora* differs from subspecies *pachyphylla* by a combination of largely quantitative characters, and it is considered to be a diminutive form of subspecies *pachyphylla*, perhaps a juvenile flowering precociously.

Our study of specimens most commonly referred to *Ardisia yunnanensis* Mez has revealed that the earliest name for the taxon is *Ardisia thyrsiflora* D. Don. Quantitative differences in leaf length and number of flowers per corymb has caused taxonomic confusion. This species, as now interpreted, is most closely related to *A. amherstiana* A. DC., a taxon most frequently encountered in Vietnam. The revised synonymy follows.

*Ardisia thyrsiflora* D. Don, Prodr. Fl. Nep. 148. 1825. TYPE: Nepal, Wallich s.n. (BM).

*Ardisia tenera* Mez in Engler, Pflanzenr. 9(IV. 236): 104. 1902. Syn. nov. SYNTYPES: China. Yunnan: Szemao, 1500 m, A. Henry 12123A (B destroyed, A); China. Yunnan: Szemao, 1500 m, A. Henry 12094 (holotype, B destroyed; lectotype, here designated, A; isolecotypes, MO, US).

*Ardisia yunnanensis* Mez in Engler, Pflanzenr. 9(IV. 236): 107. 1902. Syn. nov. TYPE: China. Yunnan: Szemao, 5000', tree 30', fls. white, A. Henry 13095 (holotype, B destroyed; lectotype, here designated, A; isolecotypes, MO, NY, US).

*Ardisia penduliflora* Mez in Engler, Pflanzenr. IV(9): 236: 150. 1902. Syn. nov. SYNTYPES: China. Hubei: 1885–1888 (fl), A. Henry 4314 (B destroyed); China. Hubei: 1885–1888 (fl), A. Henry 6365 (lectotype, here designated, US).

*Ardisia undulata* Mez in Engler, Pflanzenr. 9(IV. 236): 146. 1902. Syn. nov. TYPE: China. Yunnan: Mephra, 1700 m, A. Henry 10779 (holotype, B destroyed; lectotype, here designated, A; isoelectotypes, MO, US). Later homonym, not C. B. Clarke (1882).

*Ardisia thyrsiflora* grows on woody hills and in broad-leaf forests, valleys, and damp places in China (Guangxi, Hainan, Xizang, Yunnan), India, Myanmar, Nepal, and Vietnam. It is a highly variable species closely related to *A. amherstaiana* A. DC., *A. waitakii* C. M. Hu, *A. baotingensis* C. M. Hu, and *A. quinque-gona* Blume. These four taxa, along with *Ardisia fordii* Hemsley, a diminutive plant, form a natural group within subgenus *Akosmos*. The separation of these taxa in the flora is at best artificial, and further studies are needed to resolve the limits in this complex.

*Ardisia corymbifera* Mez in Engler, Pflanzenr. 9(IV. 236): 149. 1902. SYNTYPES: China. Yunnan: Simao, 1250 m, (fl), A. Henry 11724 (B destroyed); China. Yunnan: Simao, (fl), A. Henry 12,000A (holotype, B destroyed; lectotype, here designated, A; isoelectotype, MO).

*Ardisia corymbifera* Mez var. *tuberifera* C. Chen, Acta Phytotax. Sin. 16(3): 80. 1978. Syn. nov. TYPE: China. Guangxi: Lung Chow, S. Chun 13096 (holotype, HK).

*Ardisia maculosa* Mez in Engler, Pflanzenr. 9(IV. 236): 146. 1902. Syn. nov. SYNTYPES: China. Yunnan: Szemao, 6000 ft. elev. (fl, fr), A. Henry 12088D (B destroyed); China. Yunnan: Szemao, shrub 8', fls. pink, fr. red. (fl, fr), A. Henry 12088E (holotype, B destroyed; lectotype, here designated, US 458840; isoelectotypes, A 00025251, 00025252; MO 126457, 126458). NOTE: Herbarium accession numbers are included here because many sheets contain two accession numbers with two specimens, one of which may not have been cited in the protologue.

*Ardisia radians* Hemsley & Mez in Engler, Pflanzenr. 9(IV. 236): 146. 1902. Syn. nov. *Blaudia radians* (Hemsley & Mez) Masamune, Short Pl. Form. 162. 1936. SYNTYPES: China. Yunnan: Szemao, 4500 ft. elev., A. Henry 535, 9226A (B destroyed, K); China. Yunnan: Szemao, 4500 ft. elev., shrub 8', fls white (fl), A. Henry 11624C (lectotype, here designated, K; isoelectotypes, A, B destroyed, MO).

*Ardisia patens* Mez in Engler, Pflanzenr. 9(IV. 236): 149. 1902. Syn. nov. TYPE: China. Yunnan: Szemao, 5000 ft. elev., shrub 3', fr. red (fr), A. Henry 12088B (holotype, B destroyed; lectotype, here designated, MO; isoelectotype, A).

*Ardisia tonkinensis* A. DC., Repert. Spec. Nov. Regni Veg. 8: 354. 1910. Syn. nov. SYNTYPES: Vietnam. Tonkin: Kien-Kihé, in fields of Dong Ham & Dong Bau, H. Bon 2142, 2541, 2912 (G, P); Vo-Xa, on Mt. Chuir-Hac, H. Bon 2902 (G, P). Lectotypification of this binomial will be made after further study of all duplicates.

*Ardisia rectangularis* Hyata, J. Coll. Sci. Univ. Tokyo 30: 182. 1911. Syn. nov. SYNTYPES: Japan. Shintiku: Gozhizann, June 1906, T. Kawakumi & U. Mori 1435 (TI); Kusshaku, 1905, S. Nagasawa 358 (TI); Taito: Muri-murisha, Dec. 1899, K. Miyake s.n. (TI). This binomial will be lectotypified when all duplicates of the collections cited in the protologue are examined.

*Ardisia stellifera* Pitard, Fl. Indo-Chine 3: 863. 1930. Syn. nov. TYPE: [Vietnam]. Annam: Thua-tien, Thuy-cam, Eberhardt s.n. (holotype, P; fragment, A).

*Ardisia virens* Kurz var. *annamensis* Pitard, Fl. Indo-Chine 3: 868. 1930. Syn. nov. TYPE: [Vietnam]. Annam: Quang-tri: Dent du Tigre, 800 m, Poilane s.n. (holotype, P; fragment, A).

*Ardisia maculosa* Mez var. *symplocifolia* C. Chen, Act. Phytotax. Sin. 16(3): 79. 1978. Syn. nov. TYPE: China. Yunnan: Hokao, S. Hsuan 610078 (holotype, KUN).

*Ardisia virens* is closely related to *A. elegantissima* H. Léveillé. The separation of the two is based on the presence or absence of papillae on the inflorescence rachises and branchlets. *Ardisia virens* grows in dense evergreen broad-leaf forests, hillsides, dark damp places, humus-rich soils in China (Guangxi, Guizhou, Hainan, Taiwan, Yunnan), India, Myanmar, Thailand, Vietnam, Kalimantan, Brunei, and Sabah.

#### MYRSINE L.

As here delimited, *Myrsine* L. (including *Rapanea* Aublet) is a pantropical genus of about 300 species, of which 11 grow in China. Recent studies of tropical American taxa (Pipoly, 1991, 1992a, b, c) have shown that many taxa have staminate flowers with anthers on filaments, while the pistillate flowers have the filaments reduced or barely detectable. Pipoly (1992a) provided a complete rationale for including *Rapanea* as a synonym of *Myrsine*. Our treatment of *Myrsine* to include species formerly placed in *Rapanea* requires several new combinations.

*Myrsine cicatricosa* (C. Chen) Pipoly & C. Chen, comb. nov. Basionym: *Rapanea cicatricosa* C. Y. Wu & C. Chen ex C. Chen, Fl. Yunnan. 1: 381. 1977. TYPE: China. Vietnam, Shaba, Huanglianshan, Sino-Vietnamese Expedition 55 (holotype, KUN).

*Myrsine verruculosa* (C. Chen) Pipoly & C. Chen, comb. nov. Basionym: *Rapanea verruculosa* C. Y. Wu ex C. Chen, Fl. Yunnan. 1: 380. 1977. TYPE: China. Yunnan: Xichou Xian, 26 Sep. 1947, K. M. Feng 12062 (holotype, KUN).

*Myrsine faberi* (Mez) Pipoly & C. Chen, comb. nov. Basionym: *Rapanea faberi* Mez in Engler, Pflanzenr. 9(IV. 236): 358. 1902. SYNTYPES: China. Yunnan: Mentze, 2000 m, A. Henry 9173A (B destroyed, W); China. Guangdong: Faber 132 (B destroyed; lectotype, here designated, US; isoelectotype, W).

**Myrsine kwangsiensis** (E. H. Walker) Pipoly & C. Chen, comb. nov. Basionym: *Rapanea kwangsiensis* E. H. Walker, J. Wash. Acad. Sci. 21: 479. 1931. TYPE: China. Guangxi: Lanlow, E Linyen, Ching 6657 (holotype, US; isotype, A).

*Rapanea kwangsiensis* E. H. Walker var. *lanceolata* C. Y. Wu & C. Chen, Fl. Yunnan. 1: 383. 1977. Syn. nov. TYPE: China. Yunnan: Jinping Xian, 8 Jan. 1933, H. T. Tsai 52550 (holotype, KUN).

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#### Literature Cited

- Pipoly, J. 1983. Contributions toward a monograph of *Cybianthus* (Myrsinaceae): III. A revision of subgenus *Laxiflorus*. *Brittonia* 35: 61–80.
- . 1987. A systematic revision of the genus *Cybianthus* subgenus *Grammadenia* (Myrsinaceae). *Mem. New York Bot. Gard.* 43: 1–76.
- . 1991. Systematic studies in the genus *Myrsine* L. (Myrsinaceae) in Guayana. *Novon* 1: 204–210.
- . 1992a. A further note on *Myrsine perpauciflora* Pipoly (Myrsinaceae). *Novon* 2: 176.
- . 1992b. Estudios en el género *Myrsine* (Myrsinaceae) de Colombia. *Caldasia* 17(1): 3–9.
- . 1992c. Notes on the genus *Myrsine* (Myrsinaceae) in Peru. *Novon* 2: 392–407.
- Prance, G. 1972. *Chrysobalanaceae*. *Flora Neotropica* 9: 1–410.
- . 1982. Forest refuges: Evidence from woody angiosperms. Pp. 137–156 in G. Prance (editor), *Biological Diversification in the Tropics*. Columbia Univ. Press, New York.
- Walker, E. H. 1940. A revision of the Eastern Asiatic Myrsinaceae. *Philipp. J. Sci.* 73: 1–258.
- White, F. 1962. Geographic variation and speciation in Africa with particular reference to *Diospyros*. Pp. 71–103 in D. Nichols (editor), *Taxonomy and Geography*. The Systematics Association Publ. No. 4, London.